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ABSTRACT

The classes and class members of function words are examined in detail in this paper in order to determine those which are most basic and most important to comprehension at the kindergarten through first-grade level. Noun determiners and pronouns, verbal determiners, and prepositions were found to be of importance, as were a small number of conjunctions and interrogators. It was concluded, however, that the first studies of the conceptual basis of language at the kindergarten through first-grade level should be directed toward problems of semantics and reference in pronouns and verb auxiliaries. (JM)

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PRIORITIES FOR RESEARCH ON CONCEPTS RELATED TO FUNCTION WORDS

David W. Bessemer

ABSTRACT

Function words were examined in detail to identify those classes and class members which can be most fruitfully investigated in relation to the comprehension and use of language in conceptual instruction at the K-1 level. Based on informal criteria, logical and/or developmental sequences of the function words were hypothesized as a guide to further research. It was concluded that pronouns and verb auxiliaries should be selected for initial studies of the conceptual basis of language at the K-1 level. Determiners and prepositions also deserve early study, but with lesser priority.

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PRIORITIES FOR RESEARCH ON CONCEPTS RELATED TO FUNCTION WORDS

David W. Bessemer

An earlier paper (Bessemer, 1972) concluded that many function words have prime importance in the communication of concepts throughout primary instruction. Members of the classes of function words are examined in this paper to select those which appear to be most basic, and thus which are in most urgent need of analysis in relation to comprehension. Initial studies of the relations between syntax, semantics and underlying concepts will focus on language elements useful in communicating concepts at the K-1 level.

The criteria used here for inclusion in the domain of K-1 language to be studied are largely intuitive, based on a superficial examination of the linguistic, logical, or psychological functioning of individual words in common contexts. In general, words appearing in structures recommended for use in K-1 reading by Hatch (1970) are included. Words in other structures which Hatch recommended for postponement to the second grade are excluded. In addition, base words are regarded as prerequisite to derivatives or compounds, and are preferred for inclusion for that reason. Short words with fairly obvious interpretation are preferred to longer, more subtle words in the same class. Finally, words which appear to involve some systematic conceptual structure or dimensionality are taken as more fruitful points of departure for analysis over words which form an unsystematic assortment.

In judging some words and syntactic structures to be more fundamental than others, an implicit decision is made as to the appropriate sequencing of instruction involving these elements. The correctness and applicability

of such judgments is distinctly limited by the fact that much relevant information about the course of normal development and the instructional role of these elements is not available or not taken into account. The sequences proposed here should not be regarded as fixed or final, but as preliminary hypotheses forming the basis of further research and revision.

The classification of words and discussion of linguistic functioning presented below is based largely on Francis (1958), Strang (1968), Thomas (1966), and Jenkins (1971). No one of these sources was followed exclusively or precisely on any particular topic. In some cases, names were contrived for previously unnamed subclasses. The present author should be held responsible for any linguistic violence committed in the discussion below.

NOUN DETERMINERS

GENERAL DESCRIPTION

Determiners serve as adjuncts to nouns, signaling the onset of noun phrases. They play an essential role in restricting and specifying the reference of the head noun in the phrase and most should be regarded as fundamental in the K-1 domain.

Determiners appear in the determiner phrase, a structure found at the beginning of the noun phrase preceding adjectives, adjunct nouns, the head noun, and post-head complements. Several types of determiners are distinguished by the position which they occupy in the determiner phrase, e.g., central, precentral, or postcentral position. Most of the common words of each type are listed in Table 1.

Items which appear in central position are mutually exclusive; at most one central position determiner may occur in any one determiner

TABLE 1
NOUN DETERMINERS

A. ARTICLES

- | | |
|---------------|------|
| 1. Definite | the |
| 2. Indefinite | a/an |
| 3. Negative | no |

B. GENITIVE ARTICLES

my, your, his, her, its, our, their

C. DETERMINER PRONOUNS

1. Demonstratives

this/these, that/those

2. Limiters

each, every, either, neither, any, some, much,
another, enough, such, what

3. Quantifiers

many, more, most, whole, lot, several
few, fewer, fewest, little, less, least
cardinal numerals (one, two, three,..., ninety-nine)
numeralives (couple, dozen, score, hundred, thousand, etc.)

4. Ordinals

initial, final, middle, next, right, left, top, bottom, other
ordinal numerals (first, second, third,..., ninety-ninth, last)

5. Prearticles

all, both, half, only, just, many, such, what, not

D. DETERMINER AUXILIARIES

- | | |
|------------------------------------|-----|
| 1. Genitive Intensifier | own |
| 2. Predeterminer Particle | of |
| 3. Nouns of Quantity (see Table 3) | |

phrase. Central position determiners include the articles, genitive articles, demonstratives, and limiters.

Quantifiers and ordinals may appear in postcentral position, while prearticles occur in precentral position. Positions in the determiner phrase are illustrated in the sentence, "Only the first three runners won prizes." In this example, the occupies central position, only is in precentral position, and first and three appear in postcentral position.

In addition to their role in determiner phrases, all of the determiner pronouns and the genitives his, her, and its, may serve as surface head in noun phrases. More will be said on this point in the discussion of noun substitutes below.

There are a number of words which strictly speaking, are not determiners in their own right, but which are commonly used in connection with determiner constructions. These words are arbitrarily listed here as determiner auxiliaries because of their close relation to determiners. The most important of these words are the predeterminer particle, of, and nouns of quantity. The determiner phrase may be preceded by a predeterminer phrase, consisting either of a determiner plus of, or a noun of quantity plus of, as in the expressions "Each of my sons..." or "A quart of milk..." The use of of in the predeterminer should not be confused with its use as a preposition elsewhere. In the noun phrases above, sons and milk should be regarded as the head nouns, not each or quart.

Nouns of quantity range from arbitrary amounts (like piece) to specific units of measure (like feet). A complete list of nouns of

quantity remains to be collected. However, the list given in Table 2 indicates some nouns of quantity commonly used by 7 year-old children. This list was taken from the tables of Wepman and Hass (1969), who observed word usage in children's TAT stories. It may also be noted that any noun for a container becomes a noun of quantity by addition of the suffix -ful, as in "handful."

The genitive intensifier, own, will be considered below in relation to the genitive articles.

SEQUENCING

A tentative grading of items as more or less fundamental is given in Table 3. This grading is not entirely fixed with respect to grade levels, but generally speaking the "early" and "intermediate" columns correspond to K-1, and the "late" column to second grade or above. Only future research can determine which items present comprehension difficulties at what age, and thus what the exact placement and order of development should be. The grading does, however, express a judgment of the order of priorities for future research. The thinking behind the assignment is presented below.

The articles are important in distinguishing uses of the common nouns with particular versus generic reference, as well as "new" from "old" information (presupposition and assertion; see Krashen, 1972). "I study a whale" has particular reference to a specific whale, whereas "I study the whale" has generic reference to the class of whales. In "I see the whale," the presence of a whale is old information presumed known by the listener, but in "I see a whale" the whale's presence is

TABLE 2
SOME NOUNS OF QUANTITY

A. ARBITRARY AMOUNTS

bag, bunch, bit
cup, drink, glass
package, piece,
room, row

B. UNITS OF MEASURE

1. Time

hour, day, month, year

2. Length

foot, yard, mile

TABLE 3

POSSIBLE SEQUENCING OF NOUN DETERMINERS

Class	Order of Priority		
	Early	Intermediate	Late
Articles	the, a/an	no	
Genitives	Inflected nouns (Mary's, boy's)	my, your, his, her, its, our, their	
Demonstratives	this/these, that/those		
Limiters	any, some, much, enough	each, every, another	either, neither such, what
Quantifiers	many, few, lot, little one,...,twelve	several, more, most twenty,..., ninety couple, hundred	less, least fewer, fewest compound cardinals, remaining numeratives
Ordinals	first,...twelfth next, last, right, left top, bottom	twentieth,..., hundredth initial, final middle, other	compound ordinals
Prearticles	all, both, only, many	not, just, half	such, what
Auxiliaries	of bag, bit, piece cup, glass, drink	foot, yard, mile compounds with <u>-ful</u>	own hour, day, month, year remaining amounts and units of measure

new information asserted by the speaker. The logical importance of such distinctions indicates that the definite and indefinite articles are basic.

Hatch (1970) indicates that uses of the negative article, no, in constituent negation are often difficult for the first grade child, but that the most frequent cases (such as nothing) can be used sparingly. The development of constituent negation is well worth study, but of lesser priority, since sentence negation may usually be used in its stead, e.g., "I don't see a whale," rather than "I see no whale."

The genitive articles are important in expressing part-whole, object-property, and ownership relations ("its wing," "my height," "their dog"). They are closely related to the genitive case inflected form of proper and common nouns ("Mary's dress, the dog's house"). The genitive articles express the same relations as genitive case nouns, but involve the additional component of pronoun reference, and are certainly less fundamental on that ground. Hatch has identified pronoun reference as a major problem area for children at the K-1 level. However, the genitive articles are quite common in use, and would seem to offer less difficulty than the corresponding genitive pronouns (see discussion of pronouns below). The articles are placed in an intermediate level for that reason.

The genitive intensifier simply reinforces the genitive relation, as in "His own house burned." This additional complication can be avoided until relatively late.

The demonstratives are important in directing attention ("This book..." vs. "That book...") and can hardly be avoided in instruction.

The utility of the demonstratives suggest that they be given a high priority.

The limiters, quantifiers and prearticles are all important in logical and descriptive quantification and their understanding by the K-1 child would seem to be valuable in more advanced instruction. Hatch (1969) indicates that K-1 children have difficulties with mass-count distinctions in production of all types of determiner pronouns, but there is little specific evidence relating to comprehension difficulties. Some problems can be expected with these items, since the precise logical interpretation of these terms are often unclear even to adults.

There is some evidence (Clark, 1970) that the absolute forms (much, lot, little, many, few) are developmentally prior to the comparative and superlative forms, particularly the negative ones (less, least, fewer, fewest). Consideration of the negative comparatives and superlatives might be usefully postponed to the second grade level, after full development of understanding of the positive ones. Either and neither express relatively complex logical forms, and are placed at the advanced level. Such and what have a peculiar marginal position between the limiters and prearticles, and also might be postponed, unless later analyses showed a specific conceptual need for these items at an earlier level.

Among the numerals and numeratives, it seems reasonable that counting by ones should come first, by tens next, and the remaining compounds last, and these items are sequenced accordingly.

The ordinals are important in description and contrast of serial positions. They play an important role in instruction, and should be introduced early. The ordinal numerals are sequenced in correspondence to the cardinals. First, next, and last can be used in place of initial, middle, and final and are given priority on that basis.

The role of the nouns of quantity in the predeterminer indicates that they are a subclass of content words having the descriptive function considered important in the previous paper (Bessemmer, 1972). It seems clear that some basic arbitrary amounts should be included at the earliest level together with the predeterminer particle. Some units of length, at least, should be placed at an intermediate level. Units of time in the predeterminer phrase seem literary since the genitive inflection is most often used (e.g., a day's work vs. a day of work), and should be dealt with later. Nouns of quantity will be considered in more detail in subsequent investigations of the content words.

CONCEPTUAL PROBLEMS

It is clear from the above discussion that there are few determiners which can be entirely ruled out of investigation at the K-1' level. Problems which have been eliminated from immediate consideration include the use of limiters which are logically complex or of uncertain linguistic status, negative comparatives and superlatives, compound cardinals and ordinals, and the relatively advanced numeratives and nouns of quantity. The items which remain appear to relate to six basic conceptual areas which can be identified as prime candidates for

research on comprehension problems. These areas are summarized below together with the items involved in each:

1. noun reference: articles and demonstratives
2. genitive case: genitive articles and genitive-case nouns
3. constituent negation: no, not
4. logical quantification: limiters, prearticles
5. descriptive quantification: quantifiers, nouns of quantity
6. seriation and position: ordinals

NOUN SUBSTITUTES

GENERAL DESCRIPTION

Words which have the syntactic function of nouns, but which may occur in place of other nouns (in some sense), are included in the class of noun substitutes. Members of the class are listed in Table 4. While they are often considered a special closed subclass of nouns, noun substitutes are probably better considered to be a class of function words which combine determiner and noun functions. A pronoun, for example, does not merely replace the noun in "The boy ran," but the entire noun phrase, becoming "He ran." Those words which primarily take the noun role are simply termed pronouns, while those which may serve either as nouns or determiners have already been discussed as determiner pronouns.

Marked for gender, number, and case, the personal pronouns behave as if articles were embedded within them, and thus never appear with the articles. The embedding of determiners is more explicit in the compound indefinite pronouns, which combine determiners with the indefinite nouns thing, body, and one.

TABLE 4
NOUN SUBSTITUTES

A. PRONOUNS

1. Personal

I, we, you, he, she, it, they (subjective)
me, us, you, him, her, it, them (objective)
mine, ours, yours, his, hers, its, theirs (genitive)

2. Indefinites

people, none, one
nothing, nobody, no one, something, somebody, someone
anything, anybody, anyone, everything, everybody, everyone

3. Reflexives

myself, yourself, himself, herself
ourselves, yourselves, itself, themselves

4. Reciprocal

each other, one another

B. EXISTENTIALS

it, there

C. GENITIVE-CASE NOUNS

D. DETERMINER PRONOUNS

The items which remain (reflexives, reciprocals, and existentials) are a heterogeneous lot with very specific syntactic functions, as explained in the following section.

SEQUENCING

A possible sequencing of pronouns is shown in Table 5. The personal pronouns serve an important conceptual role in marking speaker, listener, and object of discourse. The subjective and objective cases (listed in the first two lines under personal pronouns) might reasonably be considered basic to the development of the genitive pronouns (listed in the third line) and the genitive articles, and should take priority.

Nouns inflected in the genitive case are used as noun substitutes in much the same way as genitive pronouns, e.g., "Mary's is on the table," is "Hers is on the table," where the reference (such as paper) is understood from context. Inflected common nouns, however, unlike pronouns and proper nouns, take determiners, "The teacher's is on the table." The inflected nouns do not involve the pronoun reference problem, and thus should be sequenced early along with the subjective and objective case pronouns. Despite their complexity, the genitive pronouns are very common and important in use, and thus are placed at an intermediate level.

The impersonal pronouns are used with reference to general, or unspecified persons or things, as in "People say that...." Except for the compounds with some-, the remaining words lend themselves to relatively abstract expressions which can best be avoided in early instruction. Unless there is a specific conceptual need for earlier use, the compound forms should be introduced after comprehension of their elements (like

TABLE 5
POSSIBLE SEQUENCING OF NOUN SUBSTITUTES

Class	Order of Priority		
	Early	Intermediate	Late
Personal Pronouns	I, me, we, us, you he, him, she, her it, they, them	mine, ours, yours, his, hers, its, theirs	
Impersonal Pronouns		someone, somebody something	people, others, none, lots, remaining com- pounds
Reflexives		(Reflexive use)	(Intensifier use)
Reciprocals			each other, one another
Existentials		it, there	
Genitive-Case Nouns	Mary's, boy's		

any and body) has developed. Alternatives also seem to be available which have nearly equal sense ("They all left" vs. "Everybody left").

Reflexive pronouns are compounds with -self and -selves. The reflexive use in replacing identical objects ("John washed himself") is obligatory and should be dealt with as soon as possible after the related genitive articles and pronouns. Use as an intensifier ("He himself washed the car") seems nonessential and should be postponed. The reciprocals ("They kissed each other") can also be introduced following their components, but there does not seem to be any urgent requirement for their investigation.

The existentials, it and there, often function merely as placeholders: for example, "It's raining" or "There's a boy who...." Existential it and there may cause some difficulty for children at the K-1 level, but, Hatch (1970) indicated that they could be used in early reading materials. According to Hatch (1969), they appear with noticeable frequency in the speech of children. Placement at an intermediate level thus seems most appropriate.

CONCEPTUAL PROBLEMS

The pronouns involve three general problems of comprehension and production, beyond those identified in connection with the determiners. These problems are listed below together with the classes of items involved:

- 1) Pronoun Reference--personal, impersonal, and determiner pronouns.
- 2) Number and Gender--personal, impersonal, and reflexive pronouns.
- 3) Case (subject-object) Relations--personal, reflexive, and reciprocal pronouns.

INTENSIFIERS

GENERAL DESCRIPTION

Intensifiers, as shown in Table 6, qualify the degree of adjectives or adverbs. They usually precede the adjective or adverb they modify. Those that modify adjectives are distinguished by whether they appear with the positive or with the comparative degrees. The adverbial intensifiers are distinguished by whether they tend to modify adverbs of time, place, or manner. Those adverbial intensifiers that also serve as adjectival intensifiers follow the same distinctions in use with adverbs of positive and comparative degrees.

It may be observed that a number of noun determiners (any, more, most, less, least, etc.) also appear in Table 6. When modifying an adjective, it will often be difficult to distinguish the determiner from the qualifier use of the terms, though the distinction is often made by stress in the spoken language ("more lovely things" vs. "more lovely things"). Analysis of context will often be required to establish the distinction in the written forms.

SEQUENCING

For the most part, the use of the intensifiers is an integral part of the problem of degree in adjectives and adverbs, and should be understood in that context. Further consideration will be given to these items later when the adjectives and adverbs are studied. It should also be noted that the lists given in Table 6 are not complete, and will be expanded in the course of such studies.

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TABLE 6
INTENSIFIERS

A. ADJECTIVAL

1. Positive

very, quite, rather, pretty, awful, mighty, somewhat, a bit,
a little, fairly, awfully, so, to, too, enough, indeed, real,
any, more, most, less, least, really

2. Comparative

rather, somewhat, a (whole) lot, a (good) bit, no, still, much,
lots, some, a good deal, a great deal, a little, even

B. ADVERBIAL

1. Place

(a) way, really, more, less, more or less, almost, right, far

2. Manner

very, quite, pretty, rather, awfully, mighty, more, less, too

3. Time

much, still, even, no, right, just

For the present, however, it is expedient to suggest that those items which coincide with determiners (plus the common form very) be sequenced in accordance with their role as determiners, as discussed above. The intensifier use of the determiners should be studied along with their uses as determiners and pronouns.

CONCEPTUAL PROBLEMS

Even this brief skirmish with adjectives and adverbs suggests that there are quite distinct conceptual problems associated with modifiers. A prime objective of later studies of modifiers should be the elucidation of the linguistic and conceptual bases and relations among these problems:

- 1) Descriptive Reference--the property and/or quality denoted by an adjective or adverb.
- 2) Utility--the domain of entities to which the property and/or quality may be applied.
- 3) Extradimensional Organization--superordinate classification of various degrees, amounts, qualities, or values as belonging to distinct types of properties or dimensions.
- 4) Intradimensional Organization--ordering relations among degrees, amounts, qualities, or values of a given property of dimension.

VERBAL DETERMINERS

GENERAL DESCRIPTION

The verbal determiners shown in Table 7 function in the verb phrase in a somewhat analogous way to the noun determiners in the noun phrase. They signal the onset of the verb phrase, and qualify the meaning of the main verb without having much lexical meaning on their own.

TABLE 7
VERBAL DETERMINERS

A. AUXILIARIES

1. Phase (Perfect)

have/has/had

2. Aspect (Progressive)

am/is/are/was/were

3. Voice (Passive)

am/is/are/was/were

4. Modals*

can/could, may/might, shall/should, will/would, must, dare, need
ought to

5. Status-marker and Substitute

do/does/did

B. CATENTATIVES

1. Aspect

start, get, keep (on), stop, [and others to be discovered]

2. Voice

get/gets/got

3. Modal

have to, get to, be to, used to, be going to, dare to,
be about to, need to, be able to, want to, be supposed to,
wish to, be allowed to, have got to, try to, [other "verb + to"
without meaning of "verb + in order to"]

C. NEGATOR

not

D. REQUESTOR

please, let's do

*The forms "(had) better" and "(had) best" are sometimes identified
as modals or catentatives, but their correct analysis is yet uncertain.

They also often function as verb substitutes where the context serves to complete the meaning of the verb phrase.

The auxiliaries are a small closed class whose members (as well as other transformational properties) form negatives by addition of the negator particle, not. In the absence of another auxiliary, the forms of do accompany the lexical verb to carry the negator and/or emphasis and, together with word order, signal the transformational status of the sentence. Besides its function as status marker, do serves as a general verb substitute used to avoid repetition ("I ran, and John did too").

The auxiliaries are further distinguished by the form of the main verb with which they appear, and the semantic function they serve (phase, aspect, mode, voice). Modals appear with the base form, forms of have with the past participle (base + ed) in the "perfect phase" (often called the perfect tense), the forms of be with the present participle (base + ing) in the "progressive aspect" (often called the progressive tense), or with the past participle in the "passive voice." It should be noted that the past participle of some verbs may also appear with be in an adjectival (not verbal) function, e.g., "I am sunk." This construction is sometimes regarded (probably incorrectly) as another phase or aspect.

According to Pfaff (1972), phase has to do with occurrence at definite or indefinite time, whereas aspect has to do with the status of action in regard to completion. Modals express degrees of potentiality, contingency, and social compunction (Joos, 1968), while the passive voice reverses the order relation of action and object in the sentence.

Catentatives are a large (possibly open) class of verbs having similar semantic functions, but without participating in the word ordering and transformations of auxiliaries. The aspect catentatives (like progressive be) occur with the present participle, the modal catentatives (like modals) with the base form, and the passive catentative, got (like passive be) with the past participle. Lists of the catentatives remain to be filled out, but those given in the table are sufficient to illustrate the nature of the classes involved.

The negator, whether separate from or attached to an auxiliary, operates to logically negate the predicate expressed in the verb phrase. The requestors mark polite requests, but also carry an implication as to the subject of the action.

SEQUENCING

Much of the ordering suggested here, as shown in Table 7, was recommended by Hatch (1970). The perfect phase ("I have run") is indicated as appropriate for the second grade and is placed late. While Hatch suggested that the progressive ("I am running") be placed at the first grade, Jenkins and Krashin (1971) have argued that the form is more natural than the simple present ("I run") in expressing current action, and should be introduced early. The use of the simple present, which implies habitual action, when current action is described may interfere with transfer of the child's ability to comprehend speech into the written mode.

The modals expressing potentiality and certainty (can and will) are very common and important in expression, (Kuchenbecker, 1972) and

are placed early. Those expressing social compunction (must) or a degree of contingency (shall, may, ought to) involved somewhat subtle distinctions from the others and are sequenced next, whereas need and dare are rather archaic and are placed late.

The reversal of the usual subject-verb-object order involved in the passive plus the very common deletion of the subject ("He hit me" vs. "I was hit") gives children problems in understanding the passive. Hatch suggests that the catentative passive ("I got hit") is easier, so that it is placed at an intermediate position with the be auxiliary passive later. The status-maker, do, is essential to the expression of interrogative, imperative, negative, emphatic, and combined sentence forms, and must be introduced early. The sequencing of such forms, as suggested or implied by Hatch, is indicated in Table 8, with the interrogative and imperative coming first. The aspect catentatives are very useful in describing action, and seem to be within the capacity of the K-1 child, and are placed early.

Many of the modal catentatives seem quite common in speech and easy to understand, so that are placed early. It may be that some catentatives may be used to develop comprehension of modal auxiliaries, though this remains to be demonstrated. Other modal catentatives seem more subtle, and are placed later.

The use of the negator (in sentence negation) and the polite requestors seems essential in instruction, and are placed early. The emphatic requestor ("Do come!") seems nonessential and is placed late.

TABLE 8

POSSIBLE SEQUENCING OF VERBAL DETERMINERS AND STRUCTURES

Class	Order of Priority		
	Early	Intermediate	Late
Phase Auxiliary			have/has/had
Aspect Auxiliary	am/is/are/was/were		
Modal Auxiliary	can/could, will/would	must, may/might shall/should, ought to	
Voice Auxiliary			am/is/are/was/ were
Status Marker & Substitute	do/does/did (interrogative) (imperative)	(negative) (emphatic)	(negative- interrogative) (negative- imperative)
Aspect Catenative		start, get, keep (on), stop	
Voice Catenative		get/gets/got	
Modal Catenative	have to, try to, be to, want to, used to, be going to	be supposed, be about to, be able to, have got to	dare to, need to, wish to, be to, be allowed to
Negator		not	
Requestor	please, let's		do

PREPOSITIONS

GENERAL DESCRIPTION

Most of the common prepositions are listed in Table 9, arranged according to formal rather than functional categories. They range from simple forms, involving one morpheme, to phrases with several words.

The prepositions are essentially relational in meaning. They function in prepositional phrases to establish a relation between a verb and a noun or noun-like structure which serves as object of the preposition, or to establish a relation between one noun or noun-like structure and the object. Prepositions may also serve as particles accompanying verbs, contributing a relational component to the meaning (often idiomatic) not conveyed by the verb itself. For example, compare "I gave a quarter to him" and "I gave in to him." "Gave in" functions as a compound verb with a quite different meaning than gave alone.

Linguists recognize a number of diverse types of relations, termed "cases," which prepositions signal. Several systems of case classification have been proposed, but none can be regarded as definitive. According to one recent analysis (Fillmore, 1968), the cases include agentive, instrumental, objective, dative, factive, locative, temporal, and benefactive. Cases distinguished by Hatch (1970) were time, place, manner, accompaniment, instrumental, and benefactive.

Different prepositions tend to be associated with particular cases, like by or with with the instrumental, or for with the benefactive. However, it is beyond the scope of this paper (and the present status

TABLE 9
PREPOSITIONS

A. SIMPLE

after, as, at, but, by, down, for, from, in, like, near, of, off, on, out, over, past, per, round, since, through, tell, to, under, up, with

B. COMPLEX

about, above, across, against, along, amid(st), among(st), around, before, behind, below, beneath, beside(s), between, concerning, considering, despite, during, except(ing), forth, forwards(s), opposite, regarding, together, towards(s), underneath, unlike, until, unto

C. COMPOUND

across from, ahead of, along with, along side (of), apart from, away from, back of, down from, due to, except for, inside (of), instead of, into, off of, onto, out of, outside (of), over to, throughout, together with, upon, up to, up with, within, without

D. PHRASAL

in regard to, on account of, in spite of, up next to, by means of, in addition to, in back of, in front of, on top of, in behalf of, on behalf of

of linguistics) to provide a full explanation of the nature of these relation types and their associated prepositions.

SEQUENCING

Given the large number of elements in Table 8, and considerable uncertainty about their uses, only a very coarse sequencing is possible. Most compounds and phrasals may be placed relatively late, following the usual practice adopted in this paper.

Most of the simple prepositions are used in expressing common temporal and spatial relations which Hatch (1970) suggested could be included in K-1 reading. They are also of interest from a conceptual point of view since many are polar opposites or may be arranged in dimensional series, as shown in Table 10.

The remaining simple prepositions, with the exception of through and till, seem to relate to a sufficient variety of cases to enable expression of most common relations, though not with great semantic precision. Thus, it would seem expedient to begin studies of the use of prepositions with the simple ones, plus before and during, which fill out a temporal series with after. The simple prepositions (except, through and till) and before and during are therefore placed early and the remaining complex ones at an intermediate position.

ASSORTED RELATIONAL CLASSES

GENERAL DESCRIPTION

The classes which remain are relatively small and/or have clear-cut functions, and may be dealt with fairly easily.

TABLE 10
POSSIBLE SEQUENCING OF PREPOSITIONS

Class	Order of Priority		
	Early	Intermediate	Late
Simple	(Dimensional) to, from, up, down, over, under, in, out, on, off, near, at, past, (Other) as, but, since, like, by, with	till, through	
Complex	before, during	(All remaining)	
Compound			(All)
Phrasal			(All)

The coordinators, as shown in Table 11, are linking words functioning to establish logical relations between sentence constituents of the same syntactic rank. The conjunctive coordinators (or coordinating conjunctions) appear between the linked elements, while the correlatives work in pairs with one word of the pair appearing in front of each linked element.

The interrogators listed in Table 12 signal onset of questions, and direct the form of an appropriate answer. The interrogative pronouns play a noun role in the sentence in addition to their signaling function. The adverbial interrogators only have the signaling function, and direct attention to the time, place, manner, or reason which is the object of interrogation.

The includers given in Table 13 mark the onset of an embedded sentence (included clause). The relative pronouns are essentially the same as the interrogative pronouns. As in their use as interrogators, the relative pronouns combine a noun role in the clause with their signaling function. The relational includers simply signal the occurrence of the clause, and aid in establishing the logical or descriptive relation of the clause with the matrix sentence in which it is embedded. Most of the relational includers are traditionally classified as subordinating conjunctions.

Sequence-signals, are listed in Table 14, stand at the beginning of sentences which do not stand alone, but form part of a large meaningful sequence of sentences. Similar to relational includers, they mark the onset of a sentence having some special relation to the prior sentence or sentences, and help to establish the logical or descriptive nature of that relation. The sequence signals may be

TABLE 11
COORDINATORS

A. CONJUNCTIVE

and, or, not, but, nor, yet, rather than, as well as,
together with, along with

B. CORRELATIVE

either...or, neither...nor, both...and, if...than, not
(only)...but (also) whether...or

TABLE 12
INTERROGATORS

A. INTERROGATIVE PRONOUNS

who/whom/whose, which, what, whoever/whomever/whosever,
whichever, whatever, whosoever, whomsoever, whatsoever

B. ADVERBIAL

when, where, how, why, when ever, wherever, however, why...
ever, whither, whence

TABLE 13

INCLUDERS

A. RELATIVE PRONOUNS

who, whom, whose, which, what, when, where, that, whoever, whomever, whosever, whichever, whatever, whatsoever

B. RELATIONAL

after	in case	than
although	in order that	that
as	if	though
as close as	if ever	till
as far as	if only	unless
as long as	lest	until
as near as	like	when
as often as	now(that)	wherever
as soon as	once	whence
as if	only	where
as though	provided(that)	wherever
because	since	whersovever
before	so(that)	whereas
but that	so close as	what if
but what	so far as	what though
ere	so long as	whether(...or)
except(that)	so near as	while
for	so often as	whilst
how(ever)	so soon as	whither
	such that	why

TABLE 13

INCLUDERS

A. RELATIVE PRONOUNS

who, whom, whose, which, what, when, where, that, whoever, whomever, whosever, whichever, whatever, whatsoever

B. RELATIONAL

after	in case	than
although	in order that	that
as	if	though
as close as	if ever	till
as far as	if only	unless
as long as	lest	until
as near as	like	when
as often as	now(that)	wherever
as soon as	once	whence
as if	only	where
as though	provided(that)	wherever
because	since	whersovever
before	so(that)	whereas
but that	so close as	what if
but what	so far as	what though
ere	so long as	whether(...or)
except(that)	so near as	while
for	so often as	whilst
how(ever)	so soon as	whither
	such that	why

TABLE 14
SEQUENCE-SIGNALS

A. SENTENCE MODIFIERS

accordingly, afterward(s), also, before, else, father(on),
further, hereafter, heretofore, later(on), likewise, nearby,
otherwise, still, then, there, thereafter, thereupon, too,
thus

B. SENTENCE LINKERS

consequently, furthermore, hence, however, moreover,
nevertheless, therefore

C. PREPOSITIONAL PHRASES

at least, in the next place, on the other hand, in contrast,
in addition, as a result, for example, after a while

modifiers, linkers, or prepositional phrases, and are often set off from the rest of the sentence by a comma.

Many other terms which we have already discussed may also serve as sequence signals in addition to those listed in Table 14. Such terms include noun, verb, adjective, and adverb substitutes, determiner pronouns, verbal determiners, and coordinators. Their secondary function as sequence signals will not be considered in detail here, since there are few implications which could be drawn from their secondary function which would compel revision of the sequencing already established on the basis of their primary functions.

SEQUENCING

A possible sequencing of the items discussed in the section above is shown in Table 15.

Among the coordinators, and, or, and not correspond loosely to the basic logical operations, and should be required early on that basis. But is very common in use (Kuchenbecker, 1972) and participates in constructions with not, and is also placed early. Nor involves constituent negation, and yet has an additional function as a temporal adverb, and are both given intermediate positions. The compound coordinators are placed late, since understanding of the elements which make them up should take precedence.

The correlative both...and is most elementary, and is placed early. The correlatives either...or, if...then, and not (only)...but (also) have a high degree of logical utility, and are next in sequence. The remaining ones can be replaced by simpler paraphrases, and thus are superfluous and placed last.

TABLE 15

A POSSIBLE SEQUENCING OF WORDS IN
VARIOUS RELATIONAL CLASS

Class	Order of Priority		
	Early	Middle	Late
Conjunctive Coordinator	and, or not, but	nor, yet	rather than, as well as together with, along with
Correlative Coordinator	both...and	either...or if...then not(only)...but(also)	neither...nor whether...or
Interrogative Pronouns	who, which what	whom, whose	- <u>ever</u> compounds
Adverbial Interrogative	when, where	how, why	- <u>ever</u> compounds whither, whence
Relative Pronouns	who, which what, when where, that	whom, whose	- <u>ever</u> compounds
Relational Includers	when, where that, like	after, before as, because for, how if, than while, why	(remaining Relational Includers)
Sequence-Signals			(all)

Hatch (1970) indicates that questions or clauses relating to the subject or object offer relatively less difficulty for the K-1 child, as do temporal and locative questions or clauses. Who, which, what, when, and where are thus placed early. Items involving manner (how), reason (why), or case variation (whom, whose) are somewhat more difficult and are located next. The compounds with -ever are intensified versions of the basic terms and are placed last. Some of the simpler appearing relational includers are also placed at an intermediate level, while the remaining ones are sequenced later.

Terms signaling intersentence sequences seem to involve relations similar to those of the coordinators and includers. It is perhaps expedient to avoid problems of intersentence relations and the organization of discourse until more basic problems have been studied and all of the sequence-signals listed in Table 15 are put at the later level. Function words and other items which have a secondary function as sequence signals might, however, be studied in this regard along with studies of their primary functions.

CONCEPTUAL PROBLEMS

There seem to be three main types of relational concepts which are involved in the items discussed above. There are listed below together which the classes which are relevant:

- 1) Object of interrogation--interrogators
- 2) Coordinating relations--coordinators, sequence-signals
- 3) Subordinating relations--includers and sequence-signals

DISCUSSION

Classes of function words have been examined informally in this paper to identify those classes and class members which are most urgently in need of investigation in relation to the use of language comprehension in K-1 instruction. Important areas of concern have been pointed out involving noun determiners and pronouns, verbal determiners, and prepositions. A small number of conjunctions and interrogators are also of interest. In contrast, includers (other than relative pronouns) and sequence signals do not appear to be very important at the K-1 level.

These conclusions are reinforced by the recent survey by Kuchenbecker (1972) of form class usage in children's speech compared with the storybook content of the SWRL First-Year Communication Skills program (FYCSP). Aside from content nouns, verbs, adjectives, and adverbs, the most frequent categories of use were pronouns, auxiliary verbs, determiners, and prepositions.

The largest discrepancies between speech and storybook content in form class usage were found in the nouns, verbs, pronouns, and auxiliary verbs. Implications of these discrepancies for reading comprehension are not known. It would seem that if any function word classes are to be selected for immediate study, investigations of the pronouns and auxiliary verbs have the greatest potential for payoff in direct application to reading comprehension. First studies of the conceptual basis of language at the K-1 level will therefore be directed toward problems of semantics and reference in pronouns, and the semantics of phase, aspect, voice and mode in the verb system of English.

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